MOVEMENT EDUCATION[1]

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It is with diffidence that I put pen to paper for The Australian Journal of Physiotherapy, but I do appreciate the honour in being asked to join in your jubilee celebrations. Although I trained as a physiotherapist, I have not used this knowledge in a specialized field in the widest sense. My experience has been in physical education and, in this capacity, my work has included school remedials. I cannot, therefore, put forward any well-tried ideas as a physiotherapist, but merely jot down a few thoughts which may clarify what is meant by "Movement Education".

From 1936 to 1947 my experience was in grammar schools and technical schools in London, and it was during this period that

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quite independently a wave of dissatisfaction with our methods of teaching physical education arose in different parts of the country. Miss Cooke, in Bristol, was inspired by the results of the commando training and adapted these methods for children. Miss Head, in Essex, felt that vaulting introduced at eleven years of age was too late, and experimented with improvised smaller apparatus for primary children. Perhaps partly stimulated by these and other experiments, I found my thoughts, in 1947, were turned towards physical education in primary schools. I say "partly" because I know that my own concern arose through being present at medical examinations of the new entrants of eleven years and then having to deal with the great increase of postural defects in the post-war years as opposed to the number before the war. In 1946, 80 per centum of the girls either had flat feet or a tendency to flat feet, and 40 per centum had lax posture. Instead of running special remedial classes, I had to find a way of using my physical education periods to arouse an interest in corrective movements. I experimented with large body movements and, at that time, my lesson pattern was based on "mobilization, strengthening, and relaxation". My work was helped by the mental attitude of the girls as they had the satisfaction of having achieved a place in a grammar school and, although I gained quick results, I could not help reflecting on the cause of these postural defects. Without question, the Schools Meals Service had provided a better balanced diet for some children, but clothing shortages, lack of sleep, and emotional disturbances of evacuation or air raids had been partly responsible; yet, in my own field, I knew that regular physical education which had been a feature of the London County Council primary schools before the war had not always been maintained during the war. I did begin, therefore, to take stock of what was required in the training of children before they reached me in the secondary school at eleven years.

Side by side with this wave of dissatisfaction in physical education was a similar wave in general education; and, looking back over the past ten years' experience as an organizer and lecturer, concerned with the whole age range, I am convinced that Froebel's theory of looking upon children as plants, and teachers as gardeners, is the basis of my philosophy. I feel, therefore, that the work in physical education has grown nearer to remedial work, where each patient must be considered from his own needs.

The study of children's natural movements now forms the basis from which we try to work in physical education, and I think that I must concern myself with *"how, when,* and *why"* children, of different ages, move. In physical education greater stress is now laid on "the *when* and *why"* he moves, but only if this is considered in relation to "the *how"* he moves will the work be really coordinated.

At the risk of over-simplification, I will briefly say what I mean by "the *how, when,* and *why"*. "The *how"* is obviously a study of the anatomy and physiology of the human frame: joints indicating the places where movement takes place; the neuromuscular system performing the movement; the ligaments restricting movement if too short; the respiratory, circulatory, and digestive systems being affected by exercise and fatigue caused by over-exercise. "The *when* and *why"* is the objective purpose of movement and can be summed up, perhaps, by saying that we move either consciously or unconsciously when we see some object in view—for example, when a baby crawls, he is inquisitive to discover something new, or the older boy kicks a football to act like father. I do therefore feel that if I only concerned myself with *"how"* a child moves, that is, if I only considered the effect on structures such as the joints and muscles, without also being objective and giving some attention to his emotions, I would be only partially educating the child.

In physical education, my first principle is to create an atmosphere in which the child will want to move freely, so that he can have a natural outlet for his emotions, and in so doing will use his muscles and mobilize his body; and thus his posture will be an outward expression of his confidence. In most cases this will be the natural balance of the body to the pull of gravity. It is for this reason that Mr. Laban's

analysis of movement appeals to me, since it appears to be a better way of achieving confidence in movements and is more objective than imposing movements which are unrelated to a child's emotional needs.

For example, let us consider "Arms bending and stretching, forwards, upwards, sideways, and downwards". In this I must ensure accurate positioning and effort. This will give tension of the arm muscles throughout, and relaxation after exercise. It will give mobilization in a limited degree in the wrist and shoulder joints and, possibly, full mobility in the elbow joint.

To achieve this same result I would prefer to say "Punch with your arms in as many places as you can". In this I must encourage the child to punch hard, straight, and suddenly. I must also indicate that the object to be punched is some distance from the child, so that he feels the power of the punch and adjusts his body weight naturally behind the arm to achieve this natural movement. I must encourage him to use as many of the twenty-seven points in space as possible. The child's thoughts, therefore, are directed to the *feel* of the punch and not to the placing of the arm in set positions. Objectively, when he throws a ball overarm, he will want this same feeling in his action and I can use the natural adjustment of body weight and qualities of movement in punching to achieve a skill. However, the same muscles have performed the movement, and the mobility in the wrist, shoulder, and elbow joints is similar; but to this has been added movements in other joints and an objectivity which the previous method lacked. As a teacher, it follows that I now require more knowledge.

Let us therefore consider these qualities of movement in terms of movement of the human structure.

1. Strength or Weight Quality — Tension and Relaxation of Muscles.

This quality is concerned with overcoming and giving way to gravity and the *feeling* of strength or power and weakness. This is obviously the work of the muscles, and it seems to be a mere matter of the choice of words to achieve the result. I suggest that a variety of words may be used to convey the same feeling:

Strong—feel firm, tough, strong, tense, pushing, pulling, wringing, whipping, thrusting, punching.

Weakness—feel weak, floppy, sleepy, lazy, relaxed, like jelly, limp, like a rag doll, floating, gliding, dabbing, flicking.

Heaviness—feel heavy, like a ton weight or a sack of potatoes.

Lightness—feel like a fairy, or a puppet with strings, floating.

Some of these words convey a static position, others a movement. For consciousness of heaviness, the bearing-down of the hips, and for consciousness of lightness, a lifting of the sternum will assist the feel of these qualities.

2. The Direct or Roundabout Pathway—Type of Movement in Joints.

In a hinge joint, where only flexion and extension can take place, it is obvious that the pathway of movement in the joint is only direct, whereas in a pivot joint the movement is only roundabout, but in joints of wider range the movement can be either direct, giving flexion, extension, abduction and adduction, or roundabout, giving circumduction. In a purely anatomical approach the type of movement is achieved by placing one part of the body in a definite pathway, the purpose being to increase one movement in the joint and to exercise one group of muscles. In movement education the same result would be achieved through suggestion, to feel straight lines as opposed to curved patterns.

Direct—feel zigzag pattern, draw lines in different spaces, join two points (push or pull, thrust or punch, glide, dab—the direct efforts).

Roundabout—make circles in different spaces, draw curved figures, letters, or patterns (or feel floating, flicking, wringing, or whipping—the roundabout efforts).

3. Time—Slow to Quick—Metabolism and Fatigue.

In previous work the timing of a movement has been the individual requirement of a particular exercise; the teacher has set a time or counted to ensure a class rhythm.

Experience has taught us that some people are naturally quick and others are slow; therefore, a time pattern, imposed before a child is ready for it, might hamper his movement. If this knowledge is used to keep a balance between slow sustained movements and quick jerky movements, the over-slow child can be encouraged to use some quick movements, and the over-quick child encouraged to use some slow movements. Anatomically, the muscle can hold static tension or can move slowly or quickly, but the rate of fatigue will vary accordingly. Small children's movements are usually quick and they find sustainment difficult. The flabby muscle is more prone to slow movements, and it might be that they are a sign of slow metabolism.

4. Efforts (a specialized word used by Mr. Laban).

The combination of the three qualities "time", "weight", "space" (pathway) is in every movement; and Mr. Laban analyses these qualities in extremes (slow-quick, weak-strong, direct-roundabout) as *the eight basic efforts* of pushing, thrusting, wringing, whipping, floating, gliding, dabbing, and flicking; but there is a great range of movements between these extremes. In lesson planning it is more usual to stress only one quality and gradually introduce an awareness of the other two qualities. For example, in laying stress on pathway and asking for zigzag patterns some members of a class would use more strength than others, and some would use greater speed, but more uniformity will gradually be introduced by the suggestion that the pattern should be performed quickly with firmness, or slowly with little effort

5. Directions in Space—Range of Movement in Joints.

Movements are made in space; anatomically we consider them from the shape of the joint; in movement education it is considered from the centre of the body and you are in a cube and can reach to twenty-seven points: eight on low plane, eight on middle plane, eight on high plane (each plane giving forward, backward, two side and four diagonal directions), one straight upwards, one straight downwards, and one to central point.

If a child is encouraged to feel "reach" or "stretch" into as many spaces as possible with one part of the body leading, then, contrasted with the feeling of withdrawing or closing up, mobility should be achieved.

6. Flow of Movement (which is the sum of all these points)—Posture.

The flow of movement is the correct balance of the qualities of movement, and includes the starting, the finishing, and the transitory positions of the body through a movement. Posture is the positioning of the body and, therefore, in any one movement there may be one position or many postures which will flow from one to the other. Posture, to me, is the position of the person in movement, that is, any part of the flow. It is possible to measure erect, static, posture by the unevenness of the pull of gravity on either the flexors or extensors, but the body is made to move and, although the number of joints and muscles in the normal human frame is the same, the slight variation in the length of bones in any two people will give a difference of adjustment of body weight which may not be identical in the two people. The flow of movement will be individual to each person.

I am fully aware, as my experience in the study of movement grows, that it is side by side with my training in anatomy and physiology, and that the one is complementary to the other. I have not cast aside my previous training, but have tried to build onto it and so enrich my understanding of natural movements. My main aim is to develop in students the ability to observe individual children's movements and to develop each child's confidence in the use of his body through a variety of approaches. If the child learns to *feel* movement he should be able to *use* movement as a means of expression.

I have stressed my own aim, which is preventive, in that I feel that regular exercise through natural movement from birth will be preventive. It does, however, seem to me that curative movement is similar, in that it, too, starts from the needs of the patient's deformity or injury. In my own work I must ensure a complete balance to maintain normal posture; whereas, in the case of deformity, stress would be laid on

limited directions, or strength, or pathway, or timing. The difference lies in choice of movement.

Progression.

Criticism is often levelled at this method in that there appears to be no obvious progression. In a study of children's movements the child's growth is the yardstick of progression. As the length of his bones increases, a greater reach into space should be demanded; as the power in muscles develops, greater strength should be demanded; as his coordination of the neuromuscular system matures, correspondingly greater control of pathway and timing is demanded. Progression is gained through practice; variety helps to maintain interest; so a variety of types of apparatus will add both interest and purpose.